AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

1. (Currently Amended) A digital camera comprising:

an imaging device including a two-dimensional array of pixels for receiving an optical image of a subject to generate an image signal;

a driver for driving a taking lens ~~in steps each producing movement of said taking lens through a distance greater than a depth of field~~;

a calculator for calculating an evaluation value based on the image signal obtained from said imaging device in each position to which said taking lens is driven;

a processor for performing an interpolation process upon a plurality of evaluation values obtained in respective positions to which said taking lens is driven to determine an in-focus position of said taking lens; and

a controller for controlling said driver to drive said taking lens to said in-focus position, based on a processing result from said processor, wherein said driver drives said taking lens in steps that produce movement of said taking lens through a first distance, greater than a depth of field, when the taking lens is not near said in-focus position, and through a second distance, less than said first distance, when the taking lens is near said in-focus position.

2. (Original) The digital camera according to claim 1,

wherein said driver drives said taking lens in steps each producing movement of said taking lens through a smaller distance than said distance near said in-focus position.

3. (Original) The digital camera according to claim 1,

wherein said interpolation process is performed based on evaluation values prior to and after a maximum evaluation value.

4. (Original) The digital camera according to claim 3,

wherein said interpolation process determines said in-focus position by a steep inclination extension method.

5. (Original) The digital camera according to claim 1,

wherein said evaluation value includes contrast of said image signal.

6. (Currently Amended) The digital camera of claim 1, further comprising:

a diaphragm driver for driving a diaphragm having a variable aperture diameter;

wherein the controller controls the diaphragm driver so that said diaphragm is adjusted to a first aperture diameter smaller than a second aperture diameter when calculating [[an]] the evaluation value based on a captured image obtained from said imaging device for at least two positions to which said taking lens is driven, thereby determining a direction in which said taking lens is to be driven.

7. (Previously Presented) The digital camera according to claim 6, further comprising

an exposure calculator for performing an exposure computation to calculate a proper aperture value for proper exposure of said imaging device,

wherein said second aperture diameter is determined by said proper aperture value.

8. (Original) The digital camera according to claim 6, further comprising

an adjuster for adjusting a gain of said image signal obtained by said imaging device, said adjuster increasing said gain in accordance with a change in aperture diameter of said diaphragm which is made by said controller.

9. (Original) The digital camera according to claim 6, further comprising

an adjuster for adjusting charge storage time in said imaging device, said adjuster increasing said charge storage time in accordance with a change in aperture diameter of said diaphragm which is made by said controller.

10. (Currently Amended) The digital camera according to claim 6,

wherein said controller controls said ~~second~~ diaphragm driver to increase the aperture diameter of said diaphragm when said taking lens is driven to near an in-focus position.

11. (Currently Amended) The digital camera according to claim 10, further comprising

a calculator for performing an exposure computation to calculate a proper aperture value for proper exposure of said imaging device,

wherein said controller controls said ~~second~~ diaphragm driver to adjust said diaphragm to a third aperture diameter greater than the aperture diameter determined by said proper aperture value when said taking lens is driven to near said in-focus position.

12. (Original) The digital camera according to claim 10, further comprising

an adjuster for adjusting a gain of said image signal obtained by said imaging device, said adjuster decreasing said gain as said controller increases the aperture diameter of said diaphragm.

13. (Currently Amended) The digital camera according to claim 6,

wherein said controller controls said ~~second~~ diaphragm driver to adjust said diaphragm to said first aperture diameter when the direction in which said taking lens is to be driven is not determinable.

14. (Original) The digital camera according to claim 6,

wherein said controller operates when receiving an instruction to capture an image.

15. (Original) The digital camera according to claim 6,

wherein said controller operates when power to said digital camera is turned on.

16. (Original) The digital camera according to claim 6,

wherein said controller operates after said captured image is recorded.

17. (Original) The digital camera according to claim 6,

wherein said controller operates when a recording mode is selected.

18. (Original) The digital camera according to claim 6,

wherein said evaluation value includes contrast of said image signal.

19. (Currently Amended) A method of controlling autofocus, comprising the steps of:

receiving an optical image of a subject at an imaging device including a two-dimensional array of pixels to generate an image signal;

driving a taking lens to a plurality of positions ~~in steps each producing movement of said taking lens through a distance greater than a depth of field~~;

calculating an evaluation value based on the image signal obtained from said imaging device in each position to which said taking lens is driven;

performing an interpolation process upon a plurality of evaluation values obtained in respective positions to which said taking lens is driven to determine an in-focus position of said taking lens; and

driving said taking lens to said determined in-focus position,

wherein said taking lens is driven in steps producing movement of the taking lens through a first distance, greater than a depth of field, or through a second distance, less that the first distance, responsive to said evaluation value indicating that the taking lens is near the in-focus position.

20. (Currently Amended) The method of controlling autofocus of claim 19, further comprising the steps of:

adjusting a diaphragm to a first aperture diameter smaller than a second aperture diameter when [[said]] a change in the evaluation value with respect to a previous evaluation value is less than a predetermined value;

wherein calculating [[an]] the evaluation value based on a captured image obtained from said imaging device, is based on an image captured with said diaphragm adjusted to

said first aperture diameter, to determine a direction in which said taking lens is to be driven.

21. (Currently Amended) A digital camera comprising:

an imaging device including a two-dimensional array of pixels for receiving an optical image of a subject to generate an image signal;

an optical system including a focusing lens for focusing the optical image of the subject on the imaging device;

a driver for moving the focusing lens; and

a controller coupled to the imaging device and to the driver, the controller adapted to:

cause the driver to drive the focusing lens to a plurality of positions;

calculate a value indicative of a degree of focus of an optical image based on an image signal obtained at each of said plurality of positions; and

interpolate the plurality of the calculated values,

wherein the controller causes the driver to move the focusing lens by a first distance corresponding to moving a focal plane of the optical system by an amount greater than a depth of field of the optical system when the value indicates that the focusing lens is relatively far from an in-focus position, and causes the driver to move the focusing lens by a second distance less than the first distance when the value indicates that the focusing lens is relatively near to the in-focus position.